Cruzane Mountain

Scenery Report

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for:
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Introduction

Research has shown that public acceptance of forest management practices is heavily based on the visual appearance of the forest (Ribe 2002). Scenery provides the setting, identity and sense of place for local communities. It serves as a backdrop and backyard to residents as well as a unique experience for visitors seeking something different from their own backyards. Each forest setting is comprised of scenic attributes that are derived from the environmental context of topography, geology, and climate. Therefore scenery, just as any other resource, must be cared for and managed for future generations both in the local community and those visiting from farther afield. The activities proposed by the Cruzane Mountain Vegetation Project, hereafter referred to as Cruzane project, potentially affect the current and future condition of these valued scenic resources.

The scenery resource is not a purpose and need for the project, but the purpose and need of the project to improve the ecological health and resilience of the project area does impact the scenery resource in ways that may have long-term benefits to the scenery resource as well, by improving its resilience. Furthermore, the Forest Plan states that the desired condition is to at a minimum meet and when possible exceed the assigned visual quality objectives. Concerns for the scenery resource were raised during the public involvement process. For these reasons maintaining the scenic resources within the project area is desirable.

Forest plan direction describes the desired condition of the scenery across the Lolo National Forest to protect the public's valued sense of place as well as to improve the resistance of the scenery to uncharacteristic changes that are no aligned with the historic range of variability for this ecological system. This report evaluates how well the alternatives would trend the vegetation towards those conditions.

Often aesthetically, culturally, and ecologically healthy landscapes reflect one another and ensuring the health of one ensures the health of them all. Occasionally they do not. Ecological health may reflect inherent natural disturbance regimes, which may not be perceived as scenically desirable. Yet there is scenic integrity in these disturbed environments, and it is through these disturbance patterns that long-term scenic value is often gained and sustained. If, however, the amount of disturbance exceeds the natural ecosystem parameters and/or historic range of variability for that ecosystem, there is a risk that the scenic integrity and scenic character of a place maybe destabilized or even lost. This destabilization is often coupled with unhealthy risks to the cultural and ecological landscape patterns as well. Therefore, this analysis focuses on the direct and indirect effects of the vegetation management activities including associated road building activities on the scenery resource. Direct effects are those that occur at the time of treatment and within the same spatial area as where the treatment takes place; indirect effects are those that take place after the treatment or outside the spatial area of the treatments.

Managing scenery resources involves the process of analyzing effects and applying design features to achieve the Lolo National Forest Plan desired conditions and direction for scenery resources. This analysis of the forest scenery resource focuses on how the management activities proposed in the Cruzane project would affect the scenic composition of the forest in the Cruzane project area. Additionally, this report looks at how those effects would influence the resilience of the scenic composition to future disturbances and stressors, such as insects and diseases, and wildfires.

Methodology

This analysis is consistent with the principles of the Scenery Management System (U.S. Department of Agriculture, Forest Service, 1995) and the Visual Management System (U.S. Department of Agriculture, Forest Service, 1973, 1974) handbooks. Terminology used in this analysis follows the current Scenery Management System. However, because the Forest Plan has not been updated to follow this system, the Visual Quality Objectives are described using the previous Visual Management System. Project effects to scenery resource were assessed by determining the potential for change to the scenic character relative to Forest Plan direction. Measurable visual elements like dominance, degree of deviation, and intactness define the level of scenic integrity. Concern levels and distance zones relative to viewsheds define visibility. 3D modeling from viewpoints helped in identifying potential changes.

Analysis Area

Temporal Boundary

The temporal boundaries by which to measure effects are divided in three time periods: upon project completion (immediate), 5 years (short-term), more than 5-30 years (long-term). Cumulative effects are analyzed for a 30-year period, which is the approximate time necessary for sufficient vegetation growth, such that the effects of the management actions are considered to be non-discernable by the casual viewer. Effects that are eliminated by the natural course of a single growing season are not considered effects because they are so short lived. Most intermediate treatments (commercial thinning, prescribed burning, and hazardous fuels reduction) have short-term effects when conducted by most logging systems (yarding, skidding and slash burning) because 5 years of regrowth will make these impacts visibly indiscernible. Skyline or cable logging systems in intermediate harvests and regeneration harvests (seedtree, shelterwood, and clear cuts) generally create long-term effects because they will require more than 5 years of regrowth to become indiscernible.

Spatial Boundary

The spatial boundary for this analysis is based on the total project area of 3,790 acres as well as points and travelways within a ten mile or less area that have views into the project area. This area makes up the analysis area for assessing direct, indirect and cumulative effects. Table 1 lists the viewing platforms identified through fieldwork within the ten-mile assessment area. The steepness of the terrain in this area limits overall views of the project area. As a result, no viewing platforms are more than one mile from the project area and most views are in the foreground distance zone of 0 - ½ mile of the project activity units. The steepness of the terrain combined with the close foreground distance limits the vertical visibility as well, especially for viewers in vehicles on Interstate 90. Therefore, while the interstate has the highest volume of viewers and the only viewing platform with viewers travelling from a distance greater than about 100 miles; it is not considered to be the most critical viewing platform in the project area. The expectation of viewers living in private residences along the western edge of the project area are the most critical viewers, albeit small in number. The third viewing platform identified is the travelway of the Milwaukee Grade Trail. This converted from a railway trail is used for recreational purposes primarily by local and some regional visitors. Most use is motorized and is in conjunction with travelling a longer distance on this gentle terrain trail. There are vistas available where vegetation doesn't screen views across to the project area, but they are not enhanced, marked, or otherwise designed to draw attention to the project area. Views from along the trail include visibility of the

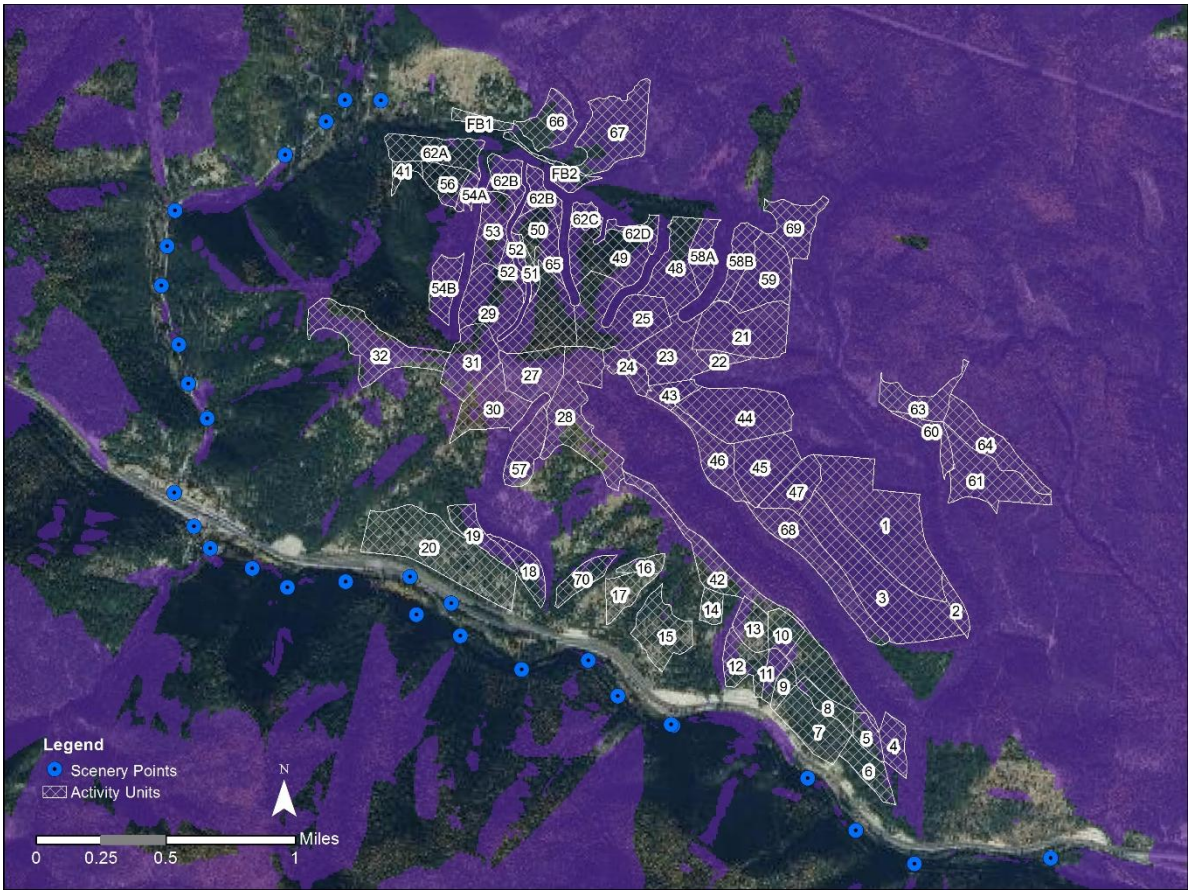
interstate as well as the river in the close foreground before visibility of the project area at the far foreground distance. Figure 1 shows the visibility of the project area and proposed action units from the scenery points in or along the viewing platforms.

Table 1. Viewing platforms identified in and around the project area.

Location	Concern	Volume	Type	Duration	Angle	Expectation
I-90	Foreground, High, level 1	High	Local, Regional, National	Short	Oblique	Commuting
Milwaukee Grade Trail	Foreground, High, level 1	Moderate	Local, Regional	Moderate	Oblique and Direct	Recreational
Packer Creek Private[1]	Foreground, Low, level 3	Low	Local	Long	Direct and Oblique	Residential

[1]The community of Saltese borders the southwestern corner of the project area but there are no units visible from the community. Therefore, the residential concern for scenery is focused on visibility from those residences along Packer Creek Road.
Source: Field work conducted in 2018.

Figure 1. Visibility of project area and units from identified scenery points on the identified viewing platforms.



Source: GIS modeling based on fieldwork data collection.

Resource Indicators and Measures

Terminology used in this analysis follows the Scenery Management System, although the visual quality objectives from the Visual Management System are used as the indicators since they are tied to the

Forest Plan direction and management areas. Analysis for scenery focuses on retention or progress towards the scenic character of a landscape as described below. Effects to the scenic character are indicated by whether or not the scenic integrity, defined by the Forest Plan assigned visual quality objectives, is being retained or exceeded. Therefore, failure to achieve the visual quality objective specified in the Forest Plan indicates an *adverse* effect.

The scenic character and existing scenic integrity were determined through field and GIS analysis during the analysis process for this report. Additionally, a field-based scenic quality analysis was conducted in 2018 to identify high concern level specific viewing platforms where views are available into the project area and may be altered by the proposed management activities. The existing scenic integrity compared to the visual quality objectives will be the baseline from which to compare proposed management activities and is expressed by the no action alternative (alternative 1).

Table 2. Scenery resource element, indicator and measure to assess effects.

Element	Indicator	Measure
Scenic character	Management activity deviations from visual quality objectives	acres that meet or exceed visual quality objectives

Source: Visual Management System and Scenery Management System Handbooks.

Data Sources

To conform with NEPA requirements multiple federal laws require Federal land management agencies to consider aesthetics through assessment of scenery resources in land management planning, resource planning, project design, implementation and monitoring.

USDA Policy

Scenery management is based on the classic aesthetic factors of form, line, color and texture, as well as the principles of sense of place. The USDA Forest Service has developed and refined guidance and methodologies to analyze these scenery principles and captured them in the following handbooks and manuals.

- Visual Management System (VMS) as described in:
    - The Visual Management System volume 1 (U.S. Department of Agriculture, Forest Service, 1973)
    - The Visual Management System volume 2 (U.S. Department of Agriculture, Forest Service, 1974)
    - VMS Roads Handbook 483 (U.S. Department of Agriculture, Forest Service, 1977)
    - VMS Timber Handbook 559 (U.S. Department of Agriculture, Forest Service, 1980)
    - VMS Fire Handbook 608 (Bacon & Dell, 1985)
- Scenery Management System (SMS) as described in:
    - Landscape Aesthetics, Handbook for Scenery Management, USDA Handbook 701 (U.S. Department of Agriculture, Forest Service, 1995)

    - Appendix J: Recommended SMS Refinements (U.S. Department of Agriculture, Forest Service, 2007)

- Forest Service Manual 2300-Recreation, Wilderness, and Related Resource Management Chapter 2380-Landscape Management (U.S. Department of Agriculture, 2008, FSM 2300).

Lolo National Forest Plan

The Forest Plan provides standards and guidelines for managing the scenic resources of the forest in both the Forest-wide and Management Area (MA) specific sections of the Forest Plan. Scenery Forest Plan direction relevant, to the proposed treatment units are stated below.

Objectives

There is a specific objective outlined for the scenery resource (U.S. Department of Agriculture, Forest Service, Lolo National Forest, 1986, pp. II-2):

> At the present time, approximately 80 percent of the Forest has a relatively natural appearance. Resource management activities are significantly constrained by visual quality objectives in areas adjacent to or readily visible from major highways, roads, trails, campgrounds, and other recreational developments. Other parts of the Forest where visual quality objectives constrain resource management activities are identified; the Forest Plan continues management that insures those natural-appearing landscapes.

Standards

Standard number 53 states “Visual rehabilitation of past management activities will be evaluated where needed during preparation and implementation of the timber sale program” (U.S. Department of Agriculture, Forest Service, Lolo National Forest, 1986, pp. II-20).

Management Area

Visual quality objectives are assigned geographically across the Lolo National Forest based on the management area the acres are within. Table 3 and

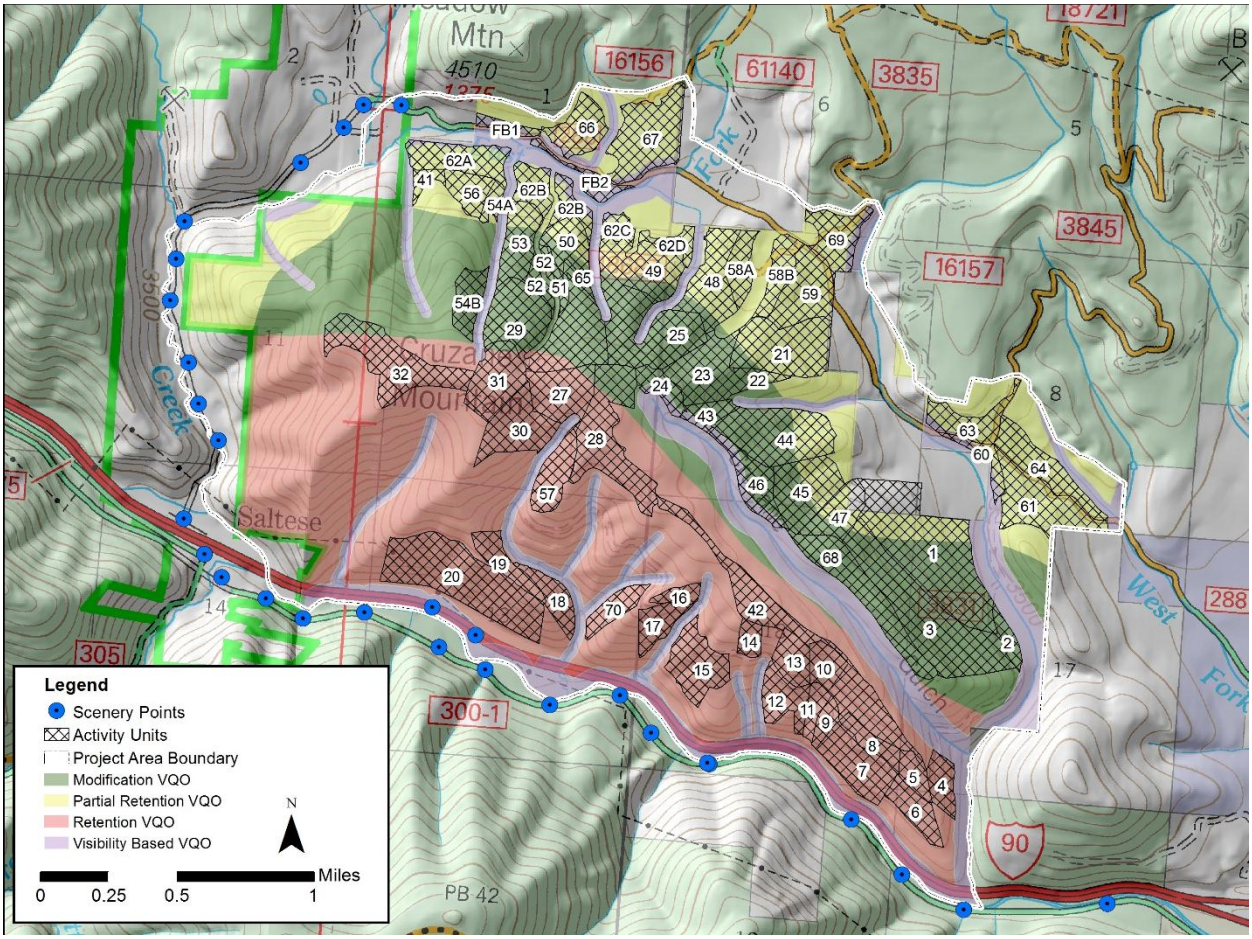
Figure 2 show the Management Areas (MA) and associated Visual Quality Objectives (VQO) across the project area.

Table 3. Management Areas, their associated Visual Quality Objectives (VQOs), requirements to meet the VQOs and the percent of treatment units that the VQOs are applied to within the project area.

MA	VQO	Requirements to Meet (from the Forest Plan or SMS)	Percent of treatment units
13	Varies	Management activities will be designed to meet the inventoried visual quality objective as seen from viewpoints. Exceptions may be made when an interdisciplinary team identified the need to protect other resource values and the resulting VQO is no more than one level below the inventoried visual quality objective.	3
16	Modification[1]	Valued scenery appears moderately altered. Visual disturbances are co-dominant with the valued scenery and may create a focal point of moderate contrast. Disturbances may reflect, introduce, or "borrow" valued scenery attributes from outside the landscape being viewed (such as the size, shape, edge effect and pattern of natural openings; vegetative type changes or socially-valued architectural styles). Scenery attributes borrowed from outside the viewed landscape appear compatible with or complimentary to those within (SMS).	32
24	Retention[2]	Valued scenery *appears natural or unaltered;* yet visual disturbances are present; however, they remain unnoticed because they repeat the form, line, color, texture, pattern and scale of the valued scenery (SMS).	34
25	Partial Retention[3]	Valued scenery appears slightly altered. Noticeable disturbances are minor and visually subordinate to the valued scenery because they repeat its form, line, color, texture, pattern and scale (SMS).	30

[1]Modification will normally be assigned to foreground and middleground visible from sensitivity level 2 viewpoints. Background and areas not seen from these viewpoints will be assigned Maximum Modification (Forest Plan).
[2]Temporary departures from this visual quality objective may be acceptable under the following conditions: a) long-term visual values require such an action; or b) essential road access into other management areas is impossible without this temporary departure (Forest Plan).
[3]Temporary departures from this visual quality objective may be acceptable under the following conditions: a) long-term visual values require such an action; or b) essential road access into other management areas is impossible without this temporary departure (Forest Plan).
Source: Lolo Forest Plan and Lolo GIS data.

Figure 2. Visual Quality Objectives overlain by Alternative 2 management action units.



Source: Lolo GIS data based on Forest Plan direction.

Affected Environment

Existing Condition/Desired Conditions

The Scenery Management System handbook notes that landscapes that include both diversity and harmony have the greatest potential for highly valued scenery. Furthermore, while all landscapes are viewed by someone at some time from somewhere not all landscapes are valued for their aesthetics in the same way. The existing scenic character of Cruzane Mountain and the desired scenic character for Cruzane Mountain discuss the differences in the aesthetic today as well as valued attributes that can better exhibit diversity and harmony on the Cruzane Mountain landscape.

Existing Scenic Character

Cruzane Mountain stands as forested knob on the north side of the St Regis river corridor and canyon. When travelling from the east, Cruzane Mountain stands as the beginning of the narrower portion of the river canyon as it winds its way towards the Idaho and Montana state line. When travelling from the west Cruzane Mountain marks the end of this narrow, incised canyon area and the beginning of the broader landscape where more distant views and landforms are possible.

Cruzane Mountain is currently dominated by homogenous dense closed canopy especially on the north and west sides of the mountain. The south side has more variety in open and closed canopy and in some areas a bit of bare soil and rock. Overall though the landscape is very uniform and indistinct. There is some evidence of previous timber harvests on the south side of the mountain and exposed soil especially along the southeastern portion of the mountain. This exposed soil creates a color, texture and pattern difference that is distinct from the forested portions of the mountain upslope. More evidence of management activities and wildfire especially to the east of the Cruzane is present on both forest service and non-forest service lands. Cruzane Mountain marks a transition zone out of the more mixed ownership landscape to the east and the primarily forest service ownership to the west.

Interstate 90 is the dominant access point and viewing platform for the largest number of people in the area. With that said, the purpose for travelers to be in the Cruzane area is not generally recreational or for viewing scenery. Interstate 90 serves as the dominant east to west travel route for commercial as well as leisure users. Leisure travelers are generally passing by Cruzane Mountain and not intending to stop for recreational purpose. Therefore, this travelway is significant for the amount of traffic it brings directly adjacent to Cruzane Mountain but is not significant in terms of being a special travelway with valued views or high concern recreational opportunities in the area.

Desired Scenic Character

The position of Cruzane Mountain at the mouth of the narrowing of the canyon surrounding the St. Regis provides a unique aesthetic as viewers are inherently transitioning from one broader landscape with longer views to one of shorter views or vice versa. The overall form of Cruzane Mountain is a soft overall uniform slope sided topographic rise with a semi-flat top when viewed in full from the south or north. There is some color variety from the exposed soil areas at the base of the mountain on the south facing side adjacent to Interstate 90, repeating this pattern of color contrast as well as adding more variety in seasonal variety could harmoniously compliment the overall appearance of the mountain. There are limited existing openings aside from these bare soil steep slope patches but when viewed from the Milwaukee Grade trail there are some small openings. The historic range of variability for this ecological system would have had more openings and vegetation species diversity adding seasonal color with occasional larch stands intermixed with more open canopy ponderosa pine stands. Expanding this variety of texture and pattern across the mountain could add variety and diversity to the area. This is especially true as this area is already a transition point from east to west, so returning it to a more harmonious composition within the appropriate historic range of variability could serve as a cue to the change in landscape and composition. Cruzane Mountain could appear more distinct yet harmonious to provide viewers with a unique experience as they enter or exit the canyon.

The south facing drier portions of Cruzane Mountain have a desired scenic composition of mixed canopy appearance. Some large openings and some denser closed canopy areas are desired to increase the stability of the scenery and move the scenic composition into one that is better aligned with the historic range of variability for the ecological area. This would include a more open understory on these south facing slopes where the conditions are drier. It is desired that there might be fewer levels of vegetation in this area and more visible penetration due to the more open vegetation levels. Larger openings are desired to create a mosaicked appearance that better matches the historic presence of mixed severity and occasional high severity fires.

On the north facing and wetter portions of Cruzane mountain the desired scenic composition is still a mixed canopy of openings and closed canopy but with more understory and variety of vegetation types, especially those that might add seasonal interest and color. The north side has less existing diversity in appearance, so the overall texture and pattern is very flat and unidimensional. There is very little of distinction when viewed from the north side. Adding more visual penetration beneath the canopy and more roughness to increase the variety could make a harmonious yet visually interesting landscape. The larger openings are desired to create a mosaicked appearance that better matches the historic presence of mixed severity and high severity fires.

Existing Scenic Integrity

The existing scenic integrity of Cruzane Mountain is that it is meeting or exceeding the visual quality objectives as described in the Forest Plan. There is little to no evidence of management action deviations and the area appears natural or unaltered. However, there is also little replication of the true ecological condition within the historic range of variability. There is little evidence of the diversity in age classes, vegetation types, open and closed canopy texture, and color variety to appear natural within the ecological range that is appropriate for the area. The homogenous canopy does create a pleasing and complete appearing landscape with regards to form, line, color, texture, and pattern but the color, texture and pattern in particular are not within the historic range of variability for the ecosystem. This flat, monotone composition does not reflect the diversity and variety that might have been created in the past when there was less influence of management decisions to reduce the influence of fire and to stock stands with inappropriate vegetation species. There is little to no mixture of form, line, color, texture, and pattern. Cruzane Mountain appears as a dark forest green, soft flat-topped dome with a consistent flat and uniform appearance.

Desired Scenic Integrity

Figure 2 and Table 3 discuss and show the visual quality objectives that are the minimum levels of scenic integrity to ensure the scenery resource is maintained across the landscape. To create a highly valued scenic landscape at Cruzane Mountain it is desired that an emphasis be placed on increasing the variety and diversity of landscape to better balance the harmony and diversity. Opportunities to create a more mosaicked appearance especially in color, form, texture and pattern should be considered to enhance and stabilize the scenic integrity.

Influence of Past Activities

The appearance of the Cruzane project area is heavily influenced by not only past activities that have occurred as well as past activities that have been suppressed. Large scale, high severity fires in the early 1900s ended an age of fire influence on the Cruzane project area. After those fires the area was stocked with tree stock that was ill adapted to the climatic conditions of the area. Simultaneously, fire suppression activities limited the influence of this disturbance agent. As a result, the project area became homogenous in all attributes of desired aesthetics. The line, color, form, texture, and pattern are all uniform. Now, about one hundred years later the effects of the wrong stock are also magnified as those trees are more susceptible to insect and disease outbreaks because the trees are already weaker stock. As a result, the scenic composition is unstable and highly susceptible to a large alteration which would not only be undesirable with regard to creating a diverse and harmonious composition but also to maintaining the scenic character within the historic range of variably.

Some timber was harvested in the Cruzane area to support mining, homesteading and sawmills since the early 1900s. Most of the more recent timber harvest, occurred between the 1960s and 1970s. Roughly 690 acres of regeneration harvest and roughly 540 acres of intermediate harvest occurred about fifty years ago. As a result, very little of this activity is discernible as most of the vegetation has grown to a mature height. Less than 100 acres of pre-commercial thinning has occurred and most of that has been within the commercial timber harvests already described. These activities account for the small amount of diversity present on the south side of Cruzane Mountain where there are some open canopy areas.

Environmental Consequences

Alternative 1 – No Action

Direct and Indirect Effects

The direct effects of the No Action alternative would be that the current scenic composition of the project area, at least immediately is retained. The project area would continue to be uniform and lacking in form, line, color, texture, and pattern diversity. The project area would remain harmonious in appearance although the harmonious composition could be susceptible to being lost due to an uncharacteristic wildfire or insect and disease event that is not within the historic range of variability.

Therefore, there could be indirect effects to the scenery resource as the overstocked forested stands continue to be under ever greater stress. These increasing stressors may make the scenic composition of the area increasingly unstable and susceptible to a widespread scenic character altering event. If such an event should occur the deviations from the scenic character would likely be retained for many decades until new vegetation growth diminishes the appearance of the event.

Scenic homogeneity across the project area would increase creating a less resilient scenic character over time. While the project area currently meets or exceeds the visual quality objectives outlined in the forest plan it would be susceptible to shifting swiftly to a condition that is not meeting the visual quality objectives, due an uncharacteristic disturbance event. The resource indicators and measures would remain unchanged or slowly degrade from the existing conditions as shown in Table 4.

Table 4. Resource indicators and measures for alternative 1.

Element	Indicator	Measure	Effects
Scenic character	Management activity deviations from visual quality objectives	Acres that meet or exceed visual quality objectives	In the short-term all acres will meet or exceed. In the long-term the resilience of all acres to maintain their visual quality objectives is low.

Source: Fieldwork and analysis.

Cumulative Effects

From the viewing platforms identified with views into the Cruzane project area there are very few that have wider panorama views beyond the project area with the exception of being able to see both the north side of the canyon where Cruzane is and the south side of the canyon from Interstate 90, the St. Regis River, and the Milwaukee Grade Trail. The south side of the canyon includes some parcels of private land surrounded by forest service lands. There is a distinct edge formed at the boundary between the ownerships which is discernible from the eastern most viewing platforms along the Interstate. While this area is not within the project area there is a cumulative effect to the scenic composition of the No Action Alternative. This contrast of management actions would continue to be retained and the boundary discernible. It is highlighted due to the density of canopy on the north side of the canyon compared to the south side. Farther to the east of the project area where mixed ownership becomes more prevalent there is further discernible differences at boundaries of ownership as well as due to management actions within these areas. Again, while these areas are outside of the project area, views from some points along the Interstate viewing platform encompass these other areas. The contrast in canopy density created pattern and texture differences would remain under the No Action Alternative.

Fire being suppressed has had the greatest influence on the scenic composition of the area. Fire suppression is primarily responsible for the lack of diversity in the vegetation composition across the project area and the homogenous appearance of Cruzane Mountain. The tree density, and in turn the lack of open canopy, is influenced by the lack of fire on the landscape as well. Fire historically would have opened the canopy up and thinned stands as well as selected for larger trees that are more likely to survive fire. Continued fire suppression actions in the future are likely to promote further departure from a stable scenic character that is capable of absorbing large-scale disturbance events and remain aesthetic. The no action alternative would retain a larger acreage of the project area in a state of instability due to these suppression activities in the past and probable suppression activities in the future. The no action alternative would also retain the homogenous scenic expression currently seen within the project area.

Alternative 2 – Proposed Action

The proposed action is to implement 77 acres of pre-commercial thinning, create 15 acres of fuel breaks, 426 acres of commercial thinning, 13 acres of improvement cutting, and 981 acres of regeneration harvest. Commercial thinning and intermediate harvest are primarily being considered for the warm dry

types while regeneration harvest is considered mostly for Douglas-fir, western larch, and western white pine types. Almost all of the regeneration units will be planted with some combination of western larch, western white pine, ponderosa pine, and occasionally, Douglas-fir. Regeneration units that are not planted will rely on natural regeneration.

Design Features

Table 5. Design Features to mitigate effects to the scenery resource and the units they apply to.

Design Feature	Units Apply To
Treatment units should avoid symmetrical shapes, straight lines and angles, disproportionate (to surrounding untreated units) opening and cluster sizes, and artificial lines and patterns. Additionally, treatments should follow natural topographic breaks and changes in vegetation, treat the entire landform and along roadways vary unit sizes, widths, shapes and distances from center lines as much as possible.	4-20, 30, 41, 42, 56, 62A-D, 66, and 70
In created openings, use irregular shaped openings with grouped leave tree islands to reduce visual contrast to untreated areas. Feather edges to minimize introducing straight lines or corners within treatment units and between treated untreated areas. Use irregular clumping and blending of unit edges to avoid introducing dominating lines that could result from creating small patch openings. Mimic natural density changes around created openings and retain the natural variances within the stand rather that *evening out* the spacing of trees. The intent is to reduce the obvious character changes occurring in the overall landscape.	7, 9, 10, 11, 12, 13, 14, 15, 17, 19, 41, 56, 66, 70
To the extent possible, keep corridors as narrow as possible to reduce contrasting liner effects. Use irregular clumping to create mosaic scenic character on edges of corridors, use open areas adjacent to corridors. Minimize the number of skyline corridors. Align corridors to avoid them being directly perpendicular to viewing platform so they are less visible. Select skyline systems with lateral yarding capabilities if possible.	5, 6, 12, 13, 16, 20, 49, 56
In units adjacent to untreated areas, especially where change in ownership is also at the edge, use irregular clumping and blending of unit edges to avoid introducing dominating lines and edges. Use one or more of the techniques as follows to reduce this possibility: • Provide a transition zone along the unit's edges. Progressively increase leave tree density from the unit center towards the unit edge where uncut canopy exists. If there are existing openings in the uncut area adjacent, do not increase tree density; link the existing opening to the created opening • Special marking-based thinning at the edges with variable spacing of leave trees, clumping of a variety of tree sizes and species if possible to create a mosaic texture. • Vary the height and age of leave trees along the edge to reduce a homogenous vertical wall effect. • Vary the edge vertically up-down slope to reduce linear pattern creation at the edge of the unit.	4, 14, 15, 17, 18, 19, 20, 41, 56, 66
Use existing topography, roads and other existing natural barriers as fire lines for burning to the extent possible (technically and economically). If new line must be built tie into existing barriers to reduce edge effects, linear features and color contrast. On the south-facing slope towards Interstate 90 avoid vertical lines to meet the retention VQO.	All burn units
Maintain the existing vegetation below constructed and temporary roads	All roads constructed or reconstructed on

as much as possible to help blend mosaic scenic character along the roads. Where feasible, retain screening trees one tree-height below roads and landings (include cable landings) when viewed from below. Any major changes during implementation in the temporary road locations from the mapped proposed action would need to be verified by the landscape architect or designee to ensure that scenic integrity is maintained.	south face of project area; facing Interstate 90. Focus on retaining any vegetation downslope of the road that can be retained in units 7, 9, 10 and 11 where the road is likely to be the most visible.
If changes are proposed to units visible from concern level 1 travelways or locations, consult Forest Landscape Architect or designee on design feature changes to address potential scenery concerns.	South-facing portion of the project area with views to Interstate 90 and Milwaukee Grade Trail.

Source: Scenery analysis

Direct and Indirect Effects

Vegetation harvest

The proposed action should not cause significant direct or indirect effects to the scenery resource because of project design to reduce the scenic contrast between the management activities and the scenic character of the area. Table 6 discusses the concern for specific units within the project area based on their visibility and visual quality objectives. All of the units identified in this table require design features to meet or exceed their visual quality objectives in the long-term. Most of the units within the table are those within the retention visual quality objective. In these units implementation of the management activities proposed will change the appearance from the existing condition. Since the existing condition is one of natural appearance, change may be presumed to appear unnatural, but the design features are proposed to reduce or eliminate the unnatural appearance albeit still a changed appearance. In the short-term some of these activity driven changes may diminish attainment of the retention visual quality objective until planted saplings and natural regeneration growth occurs to better diversify the appearance and fully replicate the ecologically appropriate form, line, color, texture and pattern of the landscape. The scale of the units as well as the scale of the openings within these units is larger than the existing condition scale of openings but these openings are within scale of one another and within the scale of openings within the historic range of variability for the ecosystem. In the long-term these units should meet or exceed this visual quality objective and become more scenically stable by reducing the risk of a large-scale alteration to the scenic landscape which could diminish the scenic character and appear unnatural. Likewise, some of the rest of these units will not meet their partial retention visual quality objective in the short-term but in the long-term the vegetation diversity in structure, form and texture should increase the scenic variety and create a more stable scenic composition. These units are expected to meet or exceed the partial retention visual quality objective and better retain the scenic character of the area in the long-term.

The proposed action may benefit the scenic character by increasing the scenic stability of the area by moving project area acres toward meeting or exceeding their visual quality objectives in the long-term. Reducing overstocked stands, reducing insect and disease infestations, and reducing the fire risk within the area should indirectly benefit the scenic stability of the project area including those acres not treated by reducing the risk of a large-scale alteration to the scenic landscape. The form of the area overall is likely to be retained as are the individual stands where the shape and scale of their forms will be natural and influenced by burning and leave tree clumping. The collective color of the area will likely be altered to have less cumulative dark forest green, but the altered colors will be natural in appearance and repeat the existing exposed soil colors and the lighter understory vegetation color as well as some additional seasonal color from larch stands. This variety should appear harmonious and natural in the long-term.

Design features to replicate the shape and scale of openings to those of either the existing condition or the historic range of variability should help reduce the contrast and allow visual disturbances to remain subordinate and create an aesthetically diverse composition across Cruzane Mountain. Treating the entire mountain with a variety of treatment types should create a more harmonious appearance than treating in a discordant manner in which some areas are, and some areas are not treated. This is especially true on the south facing side of the mountain where almost all of the south face will experience management activity. Those areas that do not experience treatment will serve as further mosaic again due to the retention of the dark forest green color, closed canopy form and texture of these areas. When seen in total the area should appear diverse yet connected and complete.

Table 6. Units, their prescriptions, logging systems and visual quality objectives and applicable design features to ensure the unit management activities will meet or exceed their visual quality objective.

Unit[1]	VQO[2]	Prescription	Logging System	Concern
4[3]	Retention	Regeneration	skyline	Not visible from concern level 1 travelway or location. Reduce edges especially between non-treatment areas to the south, east and north. Part of greater than 40-acre opening; units 5 and 6 are likely to reduce discernibility due to mosaic of treatments and higher basal area in those units creating a more closed canopy appearance.
5	Retention	Commercial Thinning	skyline	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
6	Retention	Commercial Thinning	skyline and tractor	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
7[3]	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Burning may help reduce discernibility of edges and transition into other treatment areas. Part of greater than 40-acre opening; units 5, 6, and 8 are likely to reduce discernibility due to mosaic of treatments and higher basal area in those units creating a more closed canopy appearance.
9[3]	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Natural regeneration by leave trees should diversify the texture and pattern of the unit. Burning may help reduce discernibility of edges and transition into other treatment areas. Part of greater than 40-acre opening; unit 8 is likely to reduce discernibility due to mosaic of treatments and higher basal area in those units creating a more closed canopy appearance.
10[3]	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Burning may help reduce discernibility of edges and transition into other treatment areas. Part of greater than 40-acre opening; unit 8 is likely to reduce discernibility due to mosaic of treatments and higher basal area in those units creating a more closed canopy appearance.
11[3]	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Burning may help reduce discernibility of edges and transition into other treatment areas. Part of greater than 40-acre opening; unit 8 is likely to reduce discernibility due to mosaic of treatments and higher basal area in those units creating a more closed canopy appearance.

12	Retention	Commercial Thinning	skyline	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
13	Retention	Commercial Thinning	skyline	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
14[3]	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Part of greater than 40-acre opening, with no adjacent intermediate treatments to serve as feathering. Reduce edges especially between non-treatment areas to the south and downslope. Burning between this unit and units 12, 13, and 15 to reduce the likelihood of unnatural appearance in untreated areas between these units.
15	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Reduce edges especially between non-treatment areas on all sides. Burning between this unit and units 12, 13, and 14 to reduce the likelihood of unnatural appearance in untreated areas between these units.
16	Retention	Commercial Thinning	skyline	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
17	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture. Reduce edges especially between non-treatment areas on all sides. Burning between this unit and units 14, 15, and 70 to reduce the likelihood of unnatural appearance in untreated areas between these units.
18	Retention	Regeneration	skyline	Only southeastern corner is visible. On this side burn between this unit and units 20 and 70 to reduce discernibility of an unnatural line between the treatment area and the no treatment area.
19	Retention	Regeneration	tractor	Only northwestern corner is visible. On this side burn between this unit and units 20 to reduce discernibility of an unnatural line between the treatment area and the no treatment area.
20	Retention	Commercial Thinning	skyline	Visible from Interstate and Milwaukee Grade Trail. Reduce the discernibility of corridors via burning and narrowing of the corridors.
41	Partial Retention	Regeneration	skyline	Visible from private properties and travelway accessing these properties. Reduce edges especially between non-treatment areas to the south and east. Create leave tree clumping when possible. Natural regeneration by leave trees should diversify the texture and pattern of the unit.
49	Partial Retention	Commercial Thinning	skyline	Visible from private properties and travelway accessing these properties. Reduce the discernibility of corridors as viewed from the private properties. Align them so they are not directly perpendicular to up-down slope of the hill as viewed from private property.
56	Partial Retention	Intermediate	skyline	Visible from private properties and travelway accessing these properties. Reduce edges especially between non-treatment areas to the south and east. Create leave tree clumping when possible.
66	Partial Retention	Regeneration	tractor	Visible from private properties and travelway accessing these properties. Reduce edges especially between non-treatment areas to the south and east. Create leave tree clumping when possible. Planting in irregular pattern to create a mosaic texture.
70	Retention	Regeneration	skyline	Visible from Interstate and Milwaukee Grade Trail. Create leave tree

				clumping when possible. Planting in irregular pattern to create a mosaic texture. Reduce edges especially between non-treatment areas on all sides. Burning between this unit and units 16, 17, and 18 to reduce the likelihood of unnatural appearance in untreated areas between these units.
27, 28, 30, 31, 32, 42, 57				In Retention but not visible from a concern level 1 travelway or location. If these units expand or are altered further review to ensure they will meet the retention VQO may be necessary.
Burning unit on westside of project area				Use topography to hold lines on all edges to reduce introduction of unnatural lines into the area visible from private lands.

[1]All other units do not have high concerns for meeting or exceeding their visual quality objectives.
[2]Some units have more than one VQO within them. In those cases, the more restrictive VQO is listed.
[3]These units are part of Large Opening (greater than 40 acres number 3)
Source: Scenery analysis, visibility modeling and assessment of effects.

Greater than 40-acre openings

These large openings will create a change to the existing visual composition of the area especially opening 1 and 3 which are visible from Interstate 90 and Milwaukee Grade Trail. This size opening is aligned with the historic range of variability for this ecosystem from the effects of fire. While these areas may create a contiguous 40 acre opening, there will be variation in canopy cover within them, especially in the long-term once planting has begun to restock the areas with a more diverse species composition and age class composition. The plantings will include three species, increasing the diversity of tree composition as well as potentially fall color where the larch plantings occur, creating appealing seasonal visual interest. There are also likely to be leave trees especially in the intermediate harvest portions of these large openings which will break-up the appearance of non-canopy cover as well as provide vertical variation in the landscape's appearance. Introducing this size openings in the canopy will create a more sustainable scenic composition as well as create scenic diversity in a harmonious way by creating multiple of these larger openings. Furthermore, these openings will better integrate this project area scenically into the landscape to the east, where other open, canopy-free areas are more frequently occurring.

Roads

The new 4 miles of road are not in visible areas from the concern level 1 travelways and locations. The reconstruction of the existing road through units 16 to unit 4 is visible and will likely become more visible post-harvest of the units it travels through. In particular the section between units 7 and 9, 10 and 11 will be visible since these units are regeneration harvest units which will expose all terrain around the road. To the extent feasible leaving trees on the downhill side of road within these units is desired to meet or exceed the retention visual quality objective in the long-term. This road reconstruction is not likely to meet the retention visual quality objective in the short-term in association cumulatively with the surrounding units' treatments.

Table 7. Resource indicators and measures for alternative 2.

Element	Indicator	Measure	Effects
Scenic character	Management activity deviations from visual quality objectives	Acres that meet or exceed visual quality objectives	In the short-term approximately 237 acres may not meet or exceed. This is about 6% of the project activity acres. 3,553 acres should meet or exceed in the short and long-term. In the long-term all acres should meet or exceed with design features applied.

Source: Fieldwork and analysis.

Cumulative Effects

The past, present and foreseeable actions to be analyzed cumulatively with the project management actions are the same for the action alternative as the no action alternative. In the long-term all acres in the project area should meet their visual quality objectives.

Timber harvest occurred over approximately 30 percent of the project area from the 1950s to present. The impacts of these past harvests on the scenery resource are generally indiscernible at this point in time. Overall the pattern, texture and color of the project area are dominated by naturally appearing features. There is a bit of discernible evidence of this previous management action when viewed from the south side of the St. Regis River and Interstate 90, but it is not dominate. The most discernible feature is some linear corridors where the canopy is more open than in other areas. However, a viewer observing the project area from a viewing platform east of the project area and looking west would perceive the distinctly linear hard edge formed at the boundary of the forest service land and private lands on the south side of the St. Regis River and Interstate 90. This location is outside of the project boundary but overlaps in time and space for the cumulative effects of the project actions for the scenery resource. While the management actions within this project will not diminish this discernible boundary actions in this project area could diversify the canopy within the viewshed of the project area. This may lessen the appearance of this discernible boundary by reducing the dark v. light contrast cumulatively. This is not to say that introducing new hard edge linear features is desirable. Management action design features to emulate natural forms, lines, patterns and textures is desirable within the project boundary to better integrate the management actions to the overall scenic character of the area.

As discussed in the No Action alternative cumulative effects historic fire suppression in the area has create an at-risk scenic composition. The scenery of the area is deemed to be aesthetic but at risk to a landscape altering event due to the vegetation structure and composition not being within the historic range of variability. The proposed actions in Alternative 2 may reduce the susceptibility of the entire Cruzane Mountain landscape to as extreme an alteration under such an event. The scenic stability of the scenic character is likely to increase due to the proposed management activities. The aesthetics of the area are likely to change due to the activities especially in the short-term, but the aesthetics are likely to be more stable long-term, such that they can be maintained in a diverse and harmonious composition into the future.

Conclusion

Table 8 highlights the units where short-term effects from management actions are likely to occur that will change the scenery resource from its existing condition. This change will appear in contrast to the existing condition but should appear harmonious and mosaicked in total. With the design features

applied these units should appear natural and the management activities remain subordinate in the long-term.

Table 8. Units of Concern for scenery resource impacts in the short and long-term.

Units with Short-term Effects to Scenery	Units with Possible Long-term Effects to Scenery[1]
7, 10-15, 17, 20, 70, 41, 46	7, 10-15, 17, 20, 41

[1]These effects are likely if the design features are not applied. With the design features applied these units should meet or exceed their visual quality objectives.
Source: Scenery analysis.

This table also indicates that most of those same units may have long-term effects if the design features are not implemented. If the design features are implemented the form, line, color, texture, and pattern of the project area should meet or exceed the Partial Retention and Retention visual quality objectives in the long-term. In the short-term the likely discernible effects will be stumps, blackened trees, exposed soil, discernible roadways, and possible linear corridors from skyline harvesting intermediate harvest units. Design features to reduce the impacts of these management activity remnants, should improve the aesthetic quality and reduce the discernibility. In the long-term vegetation growth will diminish the discernibility of these remnants and the increased diversity in species composition, structure and classes should increase the diversity of the scenery in a harmonious way that is aligned with the historic range of variability for this ecosystem. The addition of different vegetation species, especially larch, could increase the seasonal color variety in the area as well as the general color composition all year round. The vegetation diversity should also increase form, texture and pattern variety as well. Structural shifts to more age classes and more diversity in canopy density should also increase the variety of the landscape and maintain a more stable scenic character.

Table 9 compares the alternatives and their effects to the scenery resource. It is expected that both alternatives will maintain or exceed the visual quality objectives in one of the temporal ranges but not necessarily in both the short-term and the long-term. The No Action Alterative 1 is likely to retain a visually pleasing composition in the short-term but be vulnerable to scenic character alteration in the long-term due to at risk scenic stability from the homogenous composition. In contrast the Action Alternative 2 is likely to retain a pleasing scenic composition in the long-term but may have some short-term departures.

Table 9. Comparison of environmental effects to the scenery resource across alternatives.

Element	Indicator	Measure	Alternative	
			1	2
Scenic character	Management activity deviations from visual quality objectives	Acres that meet or exceed visual quality objectives	In the short-term all acres will meet or exceed. In the long-term the resilience of all acres to maintain their visual quality objectives is low.	In the short-term approximately 237 acres may not meet or exceed. This is about 6% of the project activity acres. 3,553 acres should meet or exceed in the short and long-term. In the long-term all acres should meet or exceed with design features applied.

Source: Fieldwork and analysis.

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